

DEPARTMENT OF TRANSPORTATION

ESC/OE MS #43
1727 30TH Street, 2ND Floor
Sacramento, CA 95816



December 15, 2000

07-LA-30-R3.6/R8.6
07-172154
ACNH-P030(043)E

Addendum No. 2

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in LOS ANGELES COUNTY IN SAN DIMAS, LA VERNE AND CLAREMONT FROM PUDDINGSTONE CHANNEL TO THOMPSON CREEK BRIDGE.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on January 4, 2001.

This addendum is being issued to revise the Project Plans, the Notice to Contractors and Special Provisions, the Proposal and Contract, and the Federal Minimum Wages with Modification Number 14 dated 12-8-00. A copy of the modified wage rates are available for the contractor's use on the Internet Site:

http://www.dot.ca.gov/hq/esc/oe/weekly_ads/addendum_page.html

Project Plan Sheets 10 through 17, 22 through 34, 128, 156, 162, 165, 174, 177, 183, 184, 185, 229, 232, 233, 234, 237, 239, 242, 248, 285, 286, 308, 333, 341, 425, 426, 465, 475, 477 through 484, 492, 493, 494, 499, 500, 501, 523, 530, 584B, 585, and 586 are revised. A half-sized copy of the revised sheets are attached for substitution for the like-numbered sheets.

Project Plan Sheets 91A, 494A through 494D, 507A through 507G, 523A 523B, 539A, 539B, 567A through 567J, 634A through 634Z, and 634AA through 634ZZ are added. A half-sized copy of the added sheets are attached for addition to the project plans.

In the Special Provisions, Section 5-1.16, "PAYMENTS," the following item is added to the fourth paragraph:

"Miscellaneous Bridge Metal"

In the Special Provisions, Section 9, "DESCRIPTION OF BRIDGE WORK," is revised as attached.

In the Special Provisions, Section 10-1.02, "ORDER OF WORK," the following three paragraphs are added after the last paragraph:

"Between Stations 64+19.744 to 64+24.208 the retaining wall footing and retaining wall for Soundwall No. 63 shall be constructed prior to the construction of the Drainage System No. 20 shown on the "Road Plans" in that vicinity.

Prior to constructing the Abutment 3 wingwalls of Miller Street Utility Overcrossing (Bridge No. 53-2916), the portion of the Soundwall No. 63 on the retaining wall in the vicinity of Miller Street shall be constructed.

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Work at the following locations shall be done on the dates indicated below and as directed by the Engineer:

Live Oak Canyon Road - Work shall not be performed at this location adjacent to the power pole shown on plan sheet U-17 until April 17, 2001.

Ramona Avenue - Work shall not be performed at this location adjacent to the GTE line shown on U-1 until April 1, 2001.

Williams Avenue - Work shall not be performed at this location adjacent to the GTE line shown on U-15 until March 1, 2001."

In the Special Provisions, Section 10-1.23, "EXISTING HIGHWAY FACILITIES," Subsection, "REMOVE ASPHALT CONCRETE DIKE," the following two paragraphs are added after the first paragraph:

"Prior to removing the dike, the outside edge of the asphalt concrete to remain in place shall be cut on a neat line to a minimum depth of 50 mm.

The dike shall be removed in such a manner that the surfacing which is to remain in place is not damaged."

In the Special Provisions, Section 10-1.23, "EXISTING HIGHWAY FACILITIES," Subsection, "RESET CHAIN LINK FENCE," is added as attached.

In the Special Provisions, Section 10-1.24, "BRIDGE REMOVAL," is replaced with "BRIDGE REMOVAL (PORTIONS) as attached.

In the Special Provisions, Section 10-1.26, "EARTHWORK," is revised as attached.

In the Special Provisions, Section 10-1.38, "PILING," is revised as attached.

In the Special Provisions, Section 10-1.39, "CONCRETE STRUCTURES," is revised as attached.

In the Special Provisions, Section 10-1.395, "ARCHITECTURAL SURFACE (TEXTURED CONCRETE)," is added as attached.

In the Special Provisions, Section 10-1.41, "SOUNDWALL," the first paragraph is revised as follows:

"DESCRIPTION

This work shall consist of constructing sound walls of masonry block. Sound walls shall be supported on concrete barriers, retaining walls, footings, pile caps, box culvert overhang, box culvert walls with and without a top slab, and culvert cap shown on the plans."

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In the Special Provisions, Section 10-1.41, "SOUNDWALL," Subsection "MEASUREMENT AND PAYMENT," the second paragraph is revised as follows:

"The contract prices paid per square meter for sound wall (masonry block) and sound wall (barrier) (masonry block) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the sound wall, complete in place, including all supports (except retaining walls, barriers, barrier supports, box culvert overhang, box culvert walls and culvert cap), anchorages, access gates, ladders, corrugated steel pipe landings, excavation, backfill, reinforcement and grade beams, scupper and vine openings as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer. Retaining walls, concrete barrier, and barrier supports supporting sound walls (barrier) will be measured and paid for as separate items of work."

In the Special Provisions, Section 10-1.42, "STRUCTURE APPROACH SLABS (TYPE R)," the first paragraph is revised to the following two paragraphs:

"Structure approach slabs (Type R) shall consist of removing, existing pavement and base including reinforced concrete approach slabs, and asphalt concrete surfacing and aggregate base, and constructing new reinforced concrete approach slabs at structure approaches as shown on the plans and in conformance with these special provisions.

Structural concrete, approach slab (Type R) shall include the concrete for the reinforced concrete curb and reinforced concrete support."

In the Special Provisions, Section 10-1.42, "STRUCTURE APPROACH SLABS (TYPE R)," Subsection "STRUCTURAL APPROACH SLAB," the following paragraph is added after the third paragraph:

"Approach slab concrete that requires a minimum curing period of 6 hours shall be constructed using a non-chloride Type C chemical admixture. Mineral admixture will not be required in this concrete."

In the Special Provisions, Section 10-1.425, "DRILL AND BOND DOWELS," is added as attached.

In the Special Provisions, Section 10-1.44, "REINFORCEMENT," the following sentence is added to the first paragraph:

"Bar reinforcing steel (box culvert) shall include bar reinforcement for the box culvert without a top slab, box culvert overhang and culvert cap supporting a portion of Soundwall 63."

In the Special Provisions, Section 10-1.44, "REINFORCEMENT," the following Subsections "EPOXY-COATED," and "MEASUREMENT AND PAYMENT," are added after the last paragraph:

"EPOXY-COATED REINFORCEMENT

All pile anchors for the steel piles shall be epoxy-coated.

MEASUREMENT AND PAYMENT

Measurement and payment for reinforcement in structures shall conform to the provisions in Section 52-1.10, "Measurement," and Section 52-1.11, "Payment," of the Standard Specifications and these special provisions.

Bar reinforcing steel for the box culvert without a top slab, box culvert overhang and the culvert cap to support a portion of Soundwall No. 63 shall be measured and paid for as bar reinforcing steel (box culvert)."

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In the Special Provisions, Section 10-1.57, "SLOPE PAVING," the following paragraphs are added after the last paragraph:

"Native cobblestones shall be natural native cobbles approximately 150 mm to 205 mm in diameter. The cobbles shall be placed in a bed of mortar in conformance with the details shown on the plans. Mortar shall conform to the requirements for portland cement mortar found in "Soundwall Masonry Block" in these special provisions.

Full compensation for native cobblestones shall be considered as included in the contract price paid per cubic meter for slope paving and no separate payment will be allowed therefor.

Full compensation for constructing a test panel shall be considered as included in the contract price paid per cubic meter for slope paving and no additional compensation will be allowed therefor."

In the Special Provisions, Section 10-1.595, "MISCELLANEOUS METAL (BRIDGE)," is added as attached.

In the Special Provisions, Section 10-1.605, "CHAIN LINK FENCE (MODIFIED)," is added as attached.

In the Special Provisions, Section 10-1.615, "CHAIN LINK RAILING," is added as attached.

In the Special Provisions, Section 10-1.655, "CABLE RAILING," is added as attached.

In the Proposal and Contract, the Engineer's Estimate Items 2, 3, 15, 18, 19, 24, 37, 44, 46, 56, 63, 72, 74, 75, 77, 78, 79, 81, 82, 85, 86, 120, 136, 146, 150, are revised, Items 199 through 232 are added and Items 41, 195 and 198 are deleted as attached.

To Proposal and Contract book holders:

Replace the entire Engineer's Estimate in the Proposal with the attached revised Engineer's Estimate. The revised Engineer's Estimate is to be used in the bid.

Attached is a copy of the Material Information.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the proposal.

Submit bids in the Proposal and Contract book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This office is sending this addendum by UPS overnight mail to Proposal and Contract book holders to ensure that each receives it.

If you are not a Proposal and Contract book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY

REBECCA D. HARNAGEL, Chief
Office of Plans, Specifications & Estimates
Division of Office Engineer

Attachments

SECTION 9. DESCRIPTION OF BRIDGE WORK

The bridge work to be done consists, in general, as shown on the plans and briefly described below:

ROUTE 30/66 SEPARATION SOUND WALL NO. 44 (Bridge No. 53-2075)

Remove barrier railing and placing Type 27 modified concrete barrier, replace structure approach slabs, and place sound wall (masonry block) approximately 99 meters long on concrete barrier.

LIVE OAK CANYON WASH SOUND WALL NO. 78

Construct soundwall (masonry block) approximately 29 meters long on existing Type 27 modified concrete barrier.

RETAINING WALL/SOUND WALL NO. 84

Construct soundwall (masonry block) approximately 32 meters long on Type 1 modified retaining wall on spread footing.

RETAINING WALL/SOUND WALL NO. 85

Construct soundwall (masonry block) approximately 26 meters long on Type 1 modified retaining wall on cast-in-drilled-hole piling.

MILLER STREET UTILITY OVERCROSSING (Bridge No. 53-2916)

Construct a 2-span prestressed concrete box girder bridge, approximately 96 meters long and 3 meters wide.

RETAINING WALL/SOUND WALL NO. 58

Construct soundwall (masonry block) approximately 137 meters long on Type 1 modified retaining wall on steel piling.

SOUND WALL ON RETAINING WALL NO. 59

Construct retaining wall approximately 227 meters on steel piling with soundwall (masonry block) located on approximately 213 meters of the retaining wall. Construct modified chain link fence approximately 204 meters long anchored in cast-in-drilled-hole piles.

SOUND WALL NO. 63/RETAINING WALL

Construct soundwall (masonry block) approximately 224 meters long on Type 1 modified retaining wall on steel piling and construct soundwall (masonry block) approximately 98 meters long on open and closed reinforced concrete single box culvert. Place cable railing and chain link fence.

EMERALD WASH FLUME CONNECTION

Construct cast-in-place reinforced concrete double box culvert connections between the existing flume and new box culverts. Reset chain link fence. Remove existing asphalt dike and asphalt concrete pavement and base. Place reinforced concrete approach slab.

MARSHALL CREEK CHANNEL CONNECTION

Construct cast-in-place reinforced concrete double box culvert connection between the existing channel flume and new box culvert. Reset chain link fence. Remove existing asphalt dike, asphalt concrete surfacing and aggregate base. Place reinforced concrete approach slab. Place asphalt dike.

Installation of lighting equipment and communication conduit in bridge rail at the following structure:

FOOTHILL BOULEVARD OVERCROSSING (Bridge No. 53-2075)

RESET CHAIN LINK FENCE

Existing chain link fence, at the locations shown on the plans, shall be removed and reset.

Post holes resulting from the removal of chain link fence shall be backfilled in accordance with the provisions in the second paragraph of Section 15-1.02, "Preservation of Property," of the Standard Specifications.

New post holes shall be drilled and materials disposed of, and furnishing and placing portland cement concrete footings, the chain link fence to be reset and connected to existing chain link fences and shall conform to Section 80, "Fences," of the Standard Specifications.

Fence removed in excess of that required for reconstructing chain link fence shall be disposed of.

Full compensation for backfilling and compacting post holes, removing and resetting of fence, including drilling new post holes, disposing of excess materials, and furnishing and placing portland cement concrete footings shall be considered as included in the contract price paid per meter for reset chain link fence and no additional compensation will be allowed therefor.

10-1.24 BRIDGE REMOVAL (PORTIONS)

Removing portions of bridges shall conform to the provisions in Section 15-4, "Bridge Removal," of the Standard Specifications and these special provisions.

Portions of the bridge and structures to be removed shall include the limits shown on the plans with general descriptions given below for the following bridge and structures

LOCATION A ROUTE 30/66 SEPARATION SOUND WALL NO. 44 (Bridge No. 53-2075)

Remove Type 9 barrier and railing and a portion of the retaining wall and overhang.

LOCATION B EMERALD WASH FLUME CONNECTION

Remove portion of the existing flume walls to tie into new flume connections. Strutting required as shown on Standard Plan D88, shall be in place prior to concrete removal.

LOCATION C MARSHALL CREEK CHANNEL CONNECTION

Remove portion of the existing flume walls to tie into new flume connections. Strutting required as shown on Standard Plan D88, shall be in place prior to concrete removal.

All removed materials that are not to be salvaged or used in the reconstruction shall become the property of the Contractor and shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

10-1.26 EARTHWORK

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these special provisions.

At the locations and to the limits shown on the plans, material below the bottom of box culvert shall be removed and replaced with structure backfill in conformance with the placing and compacting requirements for structure backfill. The relative compaction shall be not less than 95 percent. Full compensation for the removal of the material and furnishing, placing, and compacting the replacement material shall be considered as included in the contract price paid per cubic meter for Class 1 concrete (box culvert) and no separate payment will be allowed therefor.

The geocomposite drain shall conform to the details shown on the plans and the following:

- A. Attention is directed to "Engineering Fabrics" under "Materials" of these special provisions.
- B. Geocomposite drain shall consist of a manufactured core not less than 6.35 mm thick nor more than 50 mm thick with one or both sides covered with a layer of filter fabric that will provide a drainage void. The drain shall produce a flow rate, through the drainage void, of at least 25 liters per minute per meter of width at a hydraulic gradient of 1.0 and a minimum externally applied pressure of 168 kPa.
- C. A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications shall be furnished for the geocomposite drain certifying that the drain produces the required flow rate and complies with these special provisions. The Certificate of Compliance shall be accompanied by a flow capability graph for the geocomposite drain showing flow rates for externally applied pressures and hydraulic gradients. The flow capability graph shall be stamped with the verification of an independent testing laboratory.
- D. Filter fabric for the geocomposite drain shall conform to the provisions for fabric for underdrains in Section 88, "Engineering Fabrics," of the Standard Specifications.
- E. The manufactured core shall be either a preformed grid of embossed plastic, a mat of random shapes of plastic fibers, a drainage net consisting of a uniform pattern of polymeric strands forming 2 sets of continuous flow channels, or a system of plastic pillars and interconnections forming a semirigid mat.
- F. The core material and filter fabric shall be capable of maintaining the drainage void for the entire height of geocomposite drain. Filter fabric shall be integrally bonded to the side of the core material with the drainage void. Core material manufactured from impermeable plastic sheeting having nonconnecting corrugations shall be placed with the corrugations approximately perpendicular to the drainage collection system.
- G. The geocomposite drain shall be installed with the drainage void and the filter fabric facing the embankment. The fabric facing the embankment side shall overlap a minimum of 75 mm at all joints and wrap around the exterior edges a minimum of 75 mm beyond the exterior edge. If additional fabric is needed to provide overlap at joints and wrap-around at edges, the added fabric shall overlap the fabric on the geocomposite drain at least 150 mm and be attached thereto.
- H. Should the fabric on the geocomposite drain be torn or punctured, the damaged section shall be replaced completely or repaired by placing a piece of fabric that is large enough to cover the damaged area and provide a minimum 150-mm overlap.
- I. Plastic pipe shall conform to the provisions for edge drain pipe and edge drain outlets in Section 68-3, "Edge Drains," of the Standard Specifications.
- J. Treated permeable base to be placed around the slotted plastic pipe at the bottom of the geocomposite drain shall be cement treated permeable base conforming to the provisions for cement treated permeable base in Section 29, "Treated Permeable Bases," of the Standard Specifications and these special provisions.
 - The treated permeable base shall be enclosed with a high density polyethylene sheet or PVC geomembrane, not less than 250 μ m thick, which is bonded with a suitable adhesive to the concrete and geocomposite drain. Surfaces to receive the polyethylene sheet shall be cleaned before applying the adhesive. The treated permeable base shall be compacted with a vibrating shoe type compactor.
 - Concrete for use in drainage pads shall be minor concrete, except the concrete shall contain not less than 300 kilograms of cement per cubic meter.

Pervious backfill material within the limits of payment for retaining walls will be measured and paid for by cubic meter as structure backfill (retaining wall).

If structure excavation or structure backfill involved in bridges is not otherwise designated by type, and payment for the structure excavation or structure backfill has not otherwise been provided for in the Standard Specifications or these special provisions, the structure excavation or structure backfill will be paid for at the contract price per cubic meter for structure excavation (bridge) or structure backfill (bridge).

Full compensation for furnishing and installing the geocomposite drain including drainage pads shall be considered as included in the contract price paid per cubic meter for structure backfill (bridge) and no additional compensation will be allowed therefor.

The finished grade shall be left in a rough grade a minimum of 0.20-m in depth. The rough grade shall then be track walked parallel to the toe of slope or shoulder. The use of cutting edges, such as motorgrader blades, shall not be used for the final cutting of the slopes.

Tunnel excavation shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these special provisions.

Attention is directed to "Tunneling", elsewhere in these special provisions regarding payment for tunnel excavation.

Full compensation for grade to drain, as shown on the plans, shall be considered as included in the contract price paid per cubic meter for roadway excavation and no additional compensation will be allowed therefor.

Remove asphalt concrete surfacing will be measured and paid for by cubic meter as roadway excavation.

When transporting by trucks, dirt and other roadway excavated materials outside the construction area, the dirt trucks shall be covered with tarpaulin. Full compensation for covering the dirt trucks with tarpaulin, for transporting roadway excavated materials outside the project site, complete in place, as specified in these special provisions and as directed by the Engineer, shall be considered as included in the contract price paid per cubic meter for roadway excavation and no additional compensation will be made therefor.

Surplus excavated material shall become the property of the Contractor and shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Where a portion of the existing surfacing is to be removed, the outline of the area to be removed shall be cut on a neat line with a power-driven saw to a minimum depth of 50 mm before removing the surfacing. Full compensation for cutting the existing surfacing shall be considered as included in the contract price paid per cubic meter for roadway excavation and no additional compensation will be allowed therefor.

10-1.38 PILING

GENERAL

Piling shall conform to the provisions in Section 49, "Piling," of the Standard Specifications, and these special provisions.

Unless otherwise specified, welding of any work performed in conformance with the provisions in Section 49, "Piling," of the Standard Specifications, shall be in conformance with the requirements in AWS D1.1.

Foundation recommendations are included in the "Information Handout" available to the Contractor as provided for in Section 2-1.03, "Examination of Plans, Specifications, Contract, and Site of Work," of the Standard Specifications.

Attention is directed to "Welding Quality Control" of these special provisions.

Section 49-1.05, "Driving Equipment," of the Standard Specifications is amended by adding the following paragraph after the seventh paragraph:

- The use of followers or underwater hammers for driving piles will be permitted if authorized in writing by the Engineer. When a follower or underwater hammer is used, its efficiency shall be verified by furnishing the first pile in each bent or footing sufficiently long and driving the pile without the use of a follower or underwater hammer.

Difficult pile installation is anticipated due to the presence of very dense soils, possible ground water and utilities. Hard and erratic driving may be encountered.

It is anticipated that the steel piles may not achieve bearing at the specified tip elevation. Lugs may be required. Increased precipitation and discharge from the local mountains could affect groundwater elevations.

The first and second paragraphs of Section 49-4.01, "Description," of the Standard Specifications are amended to read:

- Cast-in-place concrete piles shall consist of one of the following:
 - A. Steel shells driven permanently to the required bearing value and penetration and filled with concrete.
 - B. Steel casings installed permanently to the required penetration and filled with concrete.
 - C. Drilled holes filled with concrete.
 - D. Rock sockets filled with concrete.
- The drilling of holes shall conform to the provisions in these specifications. Concrete filling for cast-in-place concrete piles is designated by compressive strength and shall have a minimum 28-day compressive strength of 25 MPa. At the option of the Contractor, the combined aggregate grading for the concrete shall be either the 25-mm maximum grading, the 12.5-mm maximum grading, or the 9.5-mm maximum grading. Concrete shall conform to the provisions in Section 90, "Portland Cement Concrete," and Section 51, "Concrete Structures." Reinforcement shall conform to the provisions in Section 52, "Reinforcement."

CAST-IN-DRILLED-HOLE CONCRETE PILES

Cast-in-drilled-hole concrete piling shall conform to the provisions in Section 49-4, "Cast-In-Place Concrete Piles," of the Standard Specifications and these special provisions.

The fourth paragraph of Section 49-4.03, "Drilled Holes," of the Standard Specifications is amended to read:

- After placing reinforcement and prior to placing concrete in the drilled hole, if caving occurs or deteriorated foundation material accumulates on the bottom of the hole, the bottom of the drilled hole shall be cleaned. The Contractor shall verify that the bottom of the drilled hole is clean.

The provisions of "Welding Quality Control" of these special provisions shall not apply to temporary steel casings.

Materials

Gradations proposed by the Contractor for cast-in-drilled-hole concrete piling shall be within the following percentage passing limits:

Primary Aggregate Nominal Size	Sieve Sizes	Limits of Proposed Gradation
25-mm x 4.75-mm	19-mm	52 - 85
25-mm x 4.75-mm	9.5-mm	15 - 38
12.5-mm x 4.75-mm	9.5-mm	40 - 78
9.5-mm x 2.36-mm	9.5-mm	50 - 85

The grading requirements for coarse aggregates for cast-in-drilled-hole concrete piling are shown in the following table for each size of coarse aggregate:

Sieve Sizes	Percentage Passing Primary Aggregate Nominal Sizes					
	25-mm x 4.75-mm		12.5-mm x 4.75-mm		9.5-mm x 2.36-mm	
	Operating Range	Contract Compliance	Operating Range	Contract Compliance	Operating Range	Contract Compliance
37.5-mm	100	100				
25-mm	88 - 100	86 - 100				
19-mm	X ± 15	X ± 22	100	100		
12.5-mm			82 - 100	80 - 100	100	100
9.5-mm	X ± 15	X ± 22	X ± 15	X ± 22	X ± 15	X ± 20
4.75-mm	0 - 16	0 - 18	0 - 15	0 - 18	0 - 25	0 - 28
2.36-mm	0 - 6	0 - 7	0 - 6	0 - 7	0 - 6	0 - 7

The combined aggregate grading used in concrete for cast-in-drilled-hole concrete piling shall be either the 25-mm maximum grading, the 12.5-mm maximum grading, or the 9.5-mm maximum grading:

Grading Limits of Combined Aggregate			
Sieve Sizes	Percentage Passing		
	25-mm Max.	12.5-mm Max.	9.5-mm Max.
37.5-mm	100		
25-mm	90 - 100		
19-mm	55 - 100	100	100
12.5-mm		90 - 100	100
9.5-mm	45 - 75	55 - 86	50 - 100
4.75-mm	35 - 60	45 - 63	45 - 63
2.36-mm	27 - 45	35 - 49	35 - 49
1.18-mm	20 - 35	25 - 37	25 - 37
600-µm	12 - 25	15 - 25	15 - 25
300-µm	5 - 15	5 - 15	5 - 15
150-µm	1 - 8	1 - 8	1 - 8
75-µm	0 - 4	0 - 4	0 - 4

All references in the Standard Specifications to the aggregate grading tables in Section 90-3, "Aggregate Gradings, " of the Standard Specifications, shall also apply to the aggregate grading tables specified herein.

Construction

The Contractor shall submit a placing plan to the Engineer for approval prior to producing the test batch for cast-in-drilled-hole concrete piling and at least 10 working days prior to constructing piling. The plan shall include complete description, details, and supporting calculations as listed below:

A. Requirements for all cast-in-drilled hole concrete piling:

1. Concrete mix design, certified test data, and trial batch reports.
2. Drilling methods and equipment.
3. Proposed method for casing installation and removal when necessary.
4. Plan view drawing of pile showing reinforcement and inspection pipes, if required.
5. Methods for placing, positioning, and supporting bar reinforcement.
6. Methods and equipment for accurately determining the depth of concrete and actual and theoretical volume placed, including effects on volume of concrete when any casings are withdrawn.
7. Methods and equipment for verifying that the bottom of the drilled hole is clean prior to placing concrete.

MEASUREMENT AND PAYMENT (PILING)

Measurement and payment for the various types and classes of piles shall conform to the provisions in Sections 49-6.01, "Measurement," and 49-6.02, "Payment," of the Standard Specifications and these special provisions.

The first paragraph of Section 49-6.02, "Payment," of the Standard Specifications is amended to read:

- Timber, steel, and precast prestressed concrete piles, and cast-in-place concrete piles consisting of driven shells filled with concrete, will be paid for at the contract price per meter for furnish piling and the contract unit price for drive pile.

The third paragraph of Section 49-6.02, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per meter for cast-in-drilled-hole concrete piling shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in drilling holes, disposing of material resulting from drilling holes, temporarily casing holes and removing water when necessary, furnishing and placing concrete and reinforcement, and constructing reinforced concrete extensions, complete in place, to the required penetration, as shown on the plans, as specified in these specifications and in the special provisions, and as directed by the Engineer.

Full compensation for furnishing and placing additional testing reinforcement, for load test anchorages, and for cutting off test piles as specified, shall be considered as included in the contract price paid for piling of the type or class shown in the Engineer's Estimate, and no additional compensation will be allowed.

No additional compensation or extension of time will be made for additional foundation investigation, installation and testing of indicator piling, cutting off piling and restoring the foundation investigation and indicator pile sites, and review of request by the Engineer.

The seventh paragraph of Section 49-6.02, "Payment," of the Standard Specifications is amended to read:

- The contract unit price paid for drive pile shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in driving timber, concrete, and steel piles, driving steel shells for cast-in-place concrete piles, placing filling materials for cast-in-place concrete piles, and cutting off piles, all complete in place to the required bearing and penetration, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

10-1.39 CONCRETE STRUCTURES

Portland cement concrete structures shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these special provisions.

Minor concrete (minor structures) shall conform to the provisions in Section 51-1.02, "Minor Structures," of the Standard Specifications and the requirements of these special provisions.

The estimated quantity of concrete for minor structures designated as final pay in the Engineer's Estimate will not be revised as specified in Section 9-1.015, "Final Pay Items," of the Standard Specifications.

Concrete rings and reducers for manholes shall be included in the contract price paid per cubic meter for minor concrete (minor structure) and no separate payment will be made therefor.

Class 1 concrete shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these special provisions.

The estimated quantities for remove concrete wall and remove fence for the channel spillway (outlet structure), as shown on the plans, shall be included in the contract price paid per cubic meter for Class 1 Concrete (Structure) and no separate payment will be made therefor.

The first paragraph of Section 51-1.20, "Sidewalks, Curbs and Stairways on Structures," of the Standard Specifications is amended to read:

- The concrete shall be finished in conformance with the provisions for finishing surfaces in Section 73-1.06, "Sidewalk, Gutter Depression, Island Paving, Curb Ramp (Wheelchair Ramp), and Driveway Construction," except that surfaces shall not be marked.

GENERAL

Class 1 concrete (box culvert) shall also include concrete used to construct the open box culvert for Drainage System No. 20 and for the reinforced concrete culvert cap used to support the Soundwall 63 where it crosses over Drainage System No. 20.

Shotcrete shall not be used as an alternative construction method for reinforced concrete members unless otherwise specified.

When a roughened concrete surface is shown on the plans, the existing concrete surface shall be roughened to a full amplitude of approximately 6 mm by abrasive blasting, water blasting or mechanical equipment.

Plastic pipe located at vertical drains used behind retaining walls and bridge abutments, including horizontal or sloping drains down slopes and across sidewalk areas shall be polyvinyl chloride (PVC) plastic pipe, Schedule 80, conforming to the provisions for pipe for edge drains and edge drain outlets in Section 68-3.02, "Materials," of the Standard Specifications. The vertical drain pipe shall be rigidly supported in place during backfilling operations.

COST REDUCTION INCENTIVE PROPOSALS FOR CAST-IN-PLACE PRESTRESSED BOX GIRDER BRIDGES

Except as provided herein, cast-in-place prestressed box girder bridges shall be constructed in conformance with the details shown on the plans and the provisions in Section 50, "Prestressing Concrete," and Section 51, "Concrete Structures," of the Standard Specifications.

If the Contractor submits cost reduction incentive proposals for cast-in-place prestressed box girder bridges, the proposals shall be in conformance with the provisions in Section 5-1.14, "Cost Reduction Incentive," of the Standard Specifications and these special provisions.

The Engineer may reject any proposal which, in the Engineer's judgment, may not produce a structure which is at least equivalent to the planned structure.

At the time the cost reduction incentive proposal (CRIP) is submitted to the Engineer, the Contractor shall also submit 4 sets of the proposed revisions to the contract plans, design calculations, and calculations from an independent checker for all changes involved in the proposal, including revisions in camber, predicted deck profile at each construction stage, and falsework requirements to the Office of Structure Design, Documents Unit, P.O. Box 942874, Sacramento, CA 94274-0001 (1801 30th Street, Sacramento, CA 95816), telephone (916) 227-8230. When notified in writing by the Engineer, the Contractor shall submit 12 sets of the CRIP plan revisions and calculations to the Office of Structure Design for final approval and use during construction. The calculations shall verify that all requirements are satisfied. The CRIP plans and calculations shall be signed by an engineer who is registered as a Civil Engineer in the State of California.

The CRIP plans shall be either 279 mm x 432 mm, or 559 mm x 864 mm in size. Each CRIP plan sheet and calculation sheet shall include the State assigned designations for the contract number, bridge number, full name of the structure as shown on the contract plans, and District-County-Route-Kilometer Post. Each CRIP plan sheet shall be numbered in the lower right hand corner and shall contain a blank space in the upper right hand corner for future contract sheet numbers.

Within 3 weeks after final approval of the CRIP plan sheets, one set of the corrected good quality prints on 75-g/m² (minimum) bond paper, 559 mm x 864 mm in size, of all CRIP plan sheets prepared by the Contractor for each CRIP shall be furnished to the Office of Structure Design, Documents Unit.

Each CRIP shall be submitted prior to completion of 25 percent of the contract working days and sufficiently in advance of the start of the work that is proposed to be revised by the CRIP to allow time for review by the Engineer and correction by the Contractor of the CRIP plans and calculations without delaying the work. The Contractor shall allow a minimum of eight weeks for the review of a CRIP. In the event that several CRIPs are submitted simultaneously, or an additional CRIP is submitted for review before the review of a previously submitted CRIP has been completed, the Contractor shall designate the sequence in which the CRIPs are to be reviewed. In this event, the time to be provided for the review of any proposal in the sequence shall be not less than the review time specified herein for that proposal, plus 2 weeks for each CRIP of higher priority which is still under review.

Should the review not be complete by the date specified in the Contractor's CRIP, or such other date as the Engineer and Contractor may subsequently have agreed to in writing and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of the delay in review of CRIP plans and calculations, an extension of time commensurate with the delay in completion of the work thus caused will be granted as provided in Section 8-1.07, "Liquidated Damages," of the Standard Specifications except that the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications shall not apply.

Permits and approvals required of the State have been obtained for the structures shown on the plans. Proposals which result in a deviation in configuration may require new permits or approvals. The Contractor shall be responsible for obtaining the new permits and approvals before the Engineer will reach a decision on the proposal. Delays in obtaining permits and approvals will not be reason for granting an extension of contract time.

All proposed modifications shall be designed in conformance with the bridge design specifications and procedures currently employed by the Department. The proposal shall include all related, dependent or incidental changes to the structure and other work affected by the proposal. The proposal will be considered only when all aspects of the design changes are included for the entire structure. Changes, such as but not limited to, additional reinforcement and changes in location of reinforcement, necessary to implement the CRIP after approval by the Engineer, shall be made at the Contractor's expense.

Modifications may be proposed in (1) the thickness of girder stems and deck slabs, (2) the number of girders, (3) the deck overhang dimensions as specified herein, (4) the amount and location of reinforcing steel, (5) the amount and location of prestressing force in the superstructure, and (6) the number of hinges, except that the number of hinges shall not be increased. The strength of the concrete used may be increased but the strength employed for design or analysis shall not exceed 42 MPa.

Modifications proposed to the minimum amount of prestressing force which must be provided by full length draped tendons are subject to the provisions in "Prestressing Concrete" of these special provisions.

No modifications will be permitted in (1) the foundation type, (2) the span lengths or (3) the exterior dimensions of columns or bridge superstructure, except that the overhang dimension from face of exterior girder to the outside edge of roadway deck may be uniformly increased or decreased by 25 percent on each side of the box girder section. Fixed connections at the tops and bottoms of columns shown on the plans shall not be eliminated.

The Contractor shall be responsible for determining construction camber and obtaining the final profile grade as shown on the plans.

The Contractor shall reimburse the State for the actual cost of investigating CRIPs for cast-in-place prestressed box girder bridges submitted by the Contractor. The Department will deduct this cost from any moneys due, or that may become due the Contractor under the contract, regardless of whether or not the proposal is approved or rejected.

SLIDING BEARINGS

Sliding bearings consisting of elastomeric bearing pads lubricated with grease and covered with sheet metal shall conform to the following requirements:

- A. Grease shall conform to the requirements of Military Specification: MIL-S-8660. A uniform film of grease shall be applied to the upper surface of the pads prior to placing the sheet metal.
- B. Sheet metal shall be commercial quality galvanized sheet steel. The sheet metal shall be smooth and free of kinks, bends, or burrs.
- C. Construction methods and procedures shall prevent grout or concrete seepage into the sliding bearing assembly.

ELASTOMERIC BEARING PADS

Elastomeric bearing pads shall conform to the provisions in Section 51-1.12H, "Elastomeric Bearing Pads," of the Standard Specifications and these special provisions.

MEASUREMENT AND PAYMENT

Measurement and payment for concrete in structures shall conform to the provisions in Section 51-1.22, "Measurement," and Section 51-1.23, "Payment," of the Standard Specifications and these special provisions.

Concrete used for the open box culvert (walls and bottom slab) and the culvert cap to support Soundwall No. 63 shall be measured and paid for as Class 1 concrete (box culvert).

Full compensation for roughening existing concrete surfaces to a full amplitude of approximately 6 mm, where shown on the plans, shall be considered as included in the contract price paid per cubic meter for structural concrete, bridge and no separate payment will be made therefor.

Full compensation for furnishing and installing plastic pipe located at vertical drains used behind retaining walls and bridge abutments, including horizontal or sloping drains down slopes and across sidewalk areas, including excavation and backfill involved in placing the plastic pipe, shall be considered as included in the contract price paid per cubic meter for the various items of concrete work involved and no separate payment will be made therefor.

10-1.395 ARCHITECTURAL SURFACE (TEXTURED CONCRETE)

Architectural texture for concrete surfaces shall conform to the details shown on the plans and the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these special provisions.

Architectural textures listed below are required at concrete surfaces shown on the plans:

Heavy blast texture

Cobblestone texture

The heavy abrasive blast texture shall be an architectural texture accomplished by abrasive blasting the surface of the concrete to produce a generally uniform color and sandy texture with air and water bubbles in the concrete partially exposed.

The architectural texture shall simulate a formed relief constructed to the dimensions and shapes shown on the plans. Corners at the intersection of plane surfaces shall be sharp and crisp without easing or rounding. A Class 1 surface finish shall be applied to the architectural texture.

TEST PANEL

A test panel at least 1.25 m x 1.25 m in size shall be successfully completed at a location approved by the Engineer before beginning work on architectural textures. The test panel shall be constructed and finished with the materials, tools, equipment and methods to be used in constructing the architectural texture. If ordered by the Engineer, additional test panels shall be constructed and finished until the specified finish, texture and color are obtained, as determined by the Engineer.

The test panel approved by the Engineer shall be used as the standard of comparison in determining acceptability of architectural texture for concrete surfaces.

FORM LINERS

Form liners shall be used for textured concrete surfaces and shall be installed in conformance with the manufacturer's recommendations, unless other methods of forming textured concrete surfaces are approved by the Engineer. Form liners shall be manufactured from an elastomeric material or a semi-elastomeric polyurethane material by a manufacturer of commercially available concrete form liners. No substitution of other types of formliner material will be allowed. Form liners shall leave crisp, sharp definition of the architectural surface. Recurring textural configurations exhibited by repeating, recognizable shadow patterns shall be prevented by proper casting of form liner patterns. Textured concrete surfaces with such recurring textural configurations shall be reworked to remove such patterns as approved by the Engineer or the concrete shall be replaced.

Form liners shall have the following properties:

Description	ASTM Designation:	Range
Elastomeric material		
Shore A hardness	D 2240	20 to 65
Tensile strength (MPa)	D 412	0.9 to 6.2
Semi-elastomeric polyurethane		
Shore D hardness	D 2240	55 to 65
Tensile strength (MPa)	D 2370	18 minimum

Cuts and tears in form liners shall be sealed and repaired in conformance with the manufacturer's recommendations. Form liners that are delaminated from the form shall not be used. Form liners with deformations to the manufactured surface caused by improper storage practices or any other reason shall not be used.

Form liners shall extend the full length of texturing with transverse joints at 2.5 m minimum spacing. Small pieces of form liners shall not be used. Grooves shall be aligned straight and true. Grooves shall match at joints between form liners. Joints in the direction of grooves in grooved patterns shall be located only in the depressed portion of the textured concrete. Adjoining liners shall be butted together without distortion, open cracks or offsets at the joints. Joints between liners shall be cleaned before each use to remove any mortar in the joint.

Adhesives shall be compatible with the form liner material and with concrete. Adhesives shall be approved by the liner manufacturer. Adhesives shall not cause swelling of the liner material.

RELEASING FORM LINERS

Products and application procedures for form release agents shall be approved by the form liner manufacturer. Release agents shall not cause swelling of the liner material or delamination from the forms. Release agents shall not stain the concrete or react with the liner material. For reliefs simulating fractured concrete or wood grain surfaces the application method shall include the scrubbing method using a natural bristle scrub brush in the direction of grooves or grain. The release agent shall coat the liner with a thin film. Following application of form release agent, the liner surfaces shall be cleaned of excess amounts of agent using compressed air. Buildup of form release agent caused by the reuse of a liner shall be removed at least every 5 uses.

Form liners shall release without leaving particles or pieces of liner material on the concrete and without pulling or breaking concrete from the textured surface. The concrete surfaces exposed by removing forms shall be protected from damage.

ABRASIVE BLASTING

The architectural texture shall be abrasive blasted with fine abrasive to remove the sheen without exposing coarse aggregate.

CURING

Concrete surfaces with architectural texture shall be cured only by the forms-in-place or water methods. Seals and curing compounds shall not be used.

MEASUREMENT AND PAYMENT

Architectural texture will be measured and paid for by the square meter.

The contract price paid per square meter for architectural texture of the types listed in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in architectural texture, complete in place, including test panels, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.425 DRILL AND BOND DOWELS

Drilling and bonding dowels shall conform to the details shown on the plans, the provisions in Section 83-2.02D(1), "General," of the Standard Specifications, and these special provisions.

Dowels shall conform to the provisions for bar reinforcement in "Reinforcement" of these special provisions.

If reinforcement is encountered during drilling before the specified depth is attained, the Engineer shall be notified. Unless the Engineer approves coring through the reinforcement, the hole will be rejected and a new hole, in which reinforcement is not encountered, shall be drilled adjacent to the rejected hole to the depth shown on the plans.

Unless otherwise provided, dowels to be bonded into drilled holes will be paid for as bar reinforcing steel (bridge).

Unless otherwise provided, drilling and bonding dowels will be measured and paid for by the meter determined by the number and the required depth of holes as shown on the plans or as ordered by the Engineer.

The contract price paid per meter for drill and bond dowel shall include full compensation for furnishing all labor, materials (except reinforcing steel dowels), tools, equipment, and incidentals, and for doing all the work involved in drilling the holes, including coring through reinforcement when approved by the Engineer, and bonding the dowels, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.595 MISCELLANEOUS METAL (BRIDGE)

Miscellaneous metal (bridge) shall conform to the provisions for miscellaneous bridge metal in Section 75, "Miscellaneous Metal," of the Standard Specifications and these special provisions.

Attention is directed to "Welding Quality Control" of these special provisions.

Miscellaneous metal (bridge) shall consist of the miscellaneous bridge metal items listed in Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications.

Self-tapping screws shall be hex-head, stainless steel or monel metal, installed in holes drilled to fit the self-tapping screws.

For drainage piping NPS 8 or smaller, which is: (1) enclosed in a box girder cell and exposed for a length not greater than 6 m, or (2) encased in concrete, the Contractor shall have the option of substituting polyvinyl chloride (PVC) plastic pipe, with the same diameter and minimum bend radius as shown on the plans, for welded steel pipe. The support spacing for PVC plastic pipe shall be 2.5 m, maximum. The PVC plastic pipe shall be Schedule 40 conforming to the requirements of ASTM Designation: D 1785. If PVC plastic pipe is substituted for welded steel pipe, the quantity of drainage piping will be computed on the basis of the dimensions and details shown on the plans and no change in the quantities to be paid for will be made because of the use of PVC plastic pipe.

Miscellaneous metal components of the modified chain link fence shall be measured and paid for as specified in Chain Link Fence (Modified) of these special provisions.

10-1.605 CHAIN LINK FENCE (MODIFIED)

Chain link fence (modified) shall conform to the provisions in Section 80, "Fences," of the Standard Specifications and these special provisions.

Chain link fencing materials listed below shall conform to the requirements in "Miscellaneous Metal (Bridge)" of these special provisions:

- 152 mm extra strong pipes
- 1-1/4" standard (42 mm) pipes
- U bolts with double nuts

Post tops, struts, tension bars, truss rods, and other required fittings and hardware shall be steel or malleable iron or wrought iron and shall be galvanized after fabrication in accordance with the provisions for posts and braces in Section 75-1.05, "Galvanizing," of the Standard Specifications.

Full compensation for furnishing and installing 152 mm extra strong pipe, 1-1/4 inch standard (42 mm) pipe, U-bolts and double nuts, post tops, struts, tension bars, truss rods, and other required fittings and hardware necessary to construct the modified chain link fence, complete in place, as shown on the plans, shall be considered as included in the contract price paid per meter for chain link fence modified and no separate payment will be allowed therefor.

10-1.615 CHAIN LINK RAILING

Chain link railing shall conform to the provisions in Section 83-1, "Railings," of the Standard Specifications and these special provisions.

The chain link fabric shall be 9-gage (3.76 mm), Type IV, Class B, bonded vinyl coated fabric, conforming to the requirements in AASHTO Designation: M 181.

The strength of the bond between the coating material and steel of the bonded vinyl coated chain link fabric shall be equal to or greater than the cohesive strength of the polyvinyl chloride (PVC) coating material.

10-1.655 CABLE RAILING

Cable railing shall conform to the provisions in Section 83-1, "Railings," of the Standard Specifications.

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
1	070010	PROGRESS SCHEDULE (CRITICAL PATH)	LS	LUMP SUM	LUMP SUM	
2	070018	TIME RELATED OVERHEAD	WDAY	400		
3	071322	TEMPORARY FENCE (TYPE CL-1.8)	M	2990		
4	074019	PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	LUMP SUM	LUMP SUM	
5	074020	WATER POLLUTION CONTROL	LS	LUMP SUM	LUMP SUM	
6 (S)	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM	LUMP SUM	
7 (S)	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM	LUMP SUM	
8 (S)	019590	TYPE I BARRICADE	EA	13		
9 (S)	120120	TYPE III BARRICADE	EA	220		
10	120151	TEMPORARY TRAFFIC STRIPE (TAPE)	M	8200		
11	120152	TEMPORARY PAVEMENT MARKING (TAPE)	M2	6		
12	120165	CHANNELIZER (SURFACE MOUNTED)	EA	380		
13	129000	TEMPORARY RAILING (TYPE K)	M	2740		
14	129100	TEMPORARY CRASH CUSHION MODULE	EA	200		
15	150224	ABANDON MANHOLE	EA	22		
16	150227	ABANDON PIPELINE	M	12		
17	150241	ABANDON SEWER	M	1740		
18	150604	REMOVE WOOD FENCE	M	200		
19	150608	REMOVE CHAIN LINK FENCE	M	4240		
20	150668	REMOVE FLARED END SECTION	EA	2		

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
21	150718	REMOVE THERMOPLASTIC TRAFFIC STRIPE AND PAVEMENT MARKING	M2	770		
22	150742	REMOVE ROADSIDE SIGN	EA	13		
23	150760	REMOVE SIGN STRUCTURE	EA	1		
24	150771	REMOVE ASPHALT CONCRETE DIKE	M	250		
25	150806	REMOVE PIPE	M	370		
26	019592	REMOVE ASBESTOS CEMENT PIPE	M	750		
27	150820	REMOVE INLET	EA	4		
28	150821	REMOVE HEADWALL	EA	3		
29	150824	REMOVE SEWER MANHOLE	EA	29		
30	150826	REMOVE MANHOLE	EA	2		
31	150827	REMOVE CATCH BASIN	EA	2		
32	150841	REMOVE SEWER PIPE	M	2440		
33	019593	REMOVE SEWER TERMINAL CLEANOUT	EA	2		
34	152440	ADJUST MANHOLE TO GRADE	EA	5		
35	152604	MODIFY INLET	EA	3		
36	153153	COLD PLANE ASPHALT CONCRETE PAVEMENT (45 MM MAXIMUM)	M2	40 100		
37	153210	REMOVE CONCRETE	M3	2050		
38	019594	REMOVE 559 MM WELDED STEEL PIPE CASING	M	9		
39	019595	REMOVE BRIDGE APPROACH RAILING	M	6		
40	156590	REMOVE CRASH CUSHION (SAND FILLED)	EA	8		

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
41	BLANK					
42	160101	CLEARING AND GRUBBING	LS	LUMP SUM	LUMP SUM	
43	190101	ROADWAY EXCAVATION	M3	2 290 000		
44 (F)	192037	STRUCTURE EXCAVATION (RETAINING WALL)	M3	9825		
45	192502	SAND BEDDING	M3	1460		
46 (F)	193013	STRUCTURE BACKFILL (RETAINING WALL)	M3	7083		
47	193114	SAND BACKFILL	M3	56		
48 (S)	203024	COMPOST (EROSION CONTROL)	KG	64 200		
49 (S)	203003	STRAW (EROSION CONTROL)	TONN	76		
50 (S)	203014	FIBER (EROSION CONTROL)	KG	15 200		
51 (S)	203045	PURE LIVE SEED (EROSION CONTROL)	KG	640		
52 (S)	203061	STABILIZING EMULSION (EROSION CONTROL)	KG	4400		
53	208731	200 MM CORRUGATED HIGH DENSITY POLYETHYLENE PIPE CONDUIT	M	1400		
54	250401	CLASS 4 AGGREGATE SUBBASE	M3	4190		
55	260201	CLASS 2 AGGREGATE BASE	M3	2080		
56	260210	AGGREGATE BASE (APPROACH SLAB)	M3	35		
57	260301	CLASS 3 AGGREGATE BASE	M3	48 900		
58	280000	LEAN CONCRETE BASE	M3	36 900		
59	390155	ASPHALT CONCRETE (TYPE A)	TONN	11 200		
60	390160	ASPHALT CONCRETE (TYPE B)	TONN	11 000		

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
61	393001	PAVEMENT REINFORCING FABRIC	M2	380		
62	394002	PLACE ASPHALT CONCRETE (MISCELLANEOUS AREA)	M2	5220		
63	394040	PLACE ASPHALT CONCRETE DIKE (TYPE A)	M	9950		
64	394044	PLACE ASPHALT CONCRETE DIKE (TYPE C)	M	150		
65	394046	PLACE ASPHALT CONCRETE DIKE (TYPE D)	M	460		
66	394049	PLACE ASPHALT CONCRETE DIKE (TYPE F)	M	74		
67	401000	CONCRETE PAVEMENT	M3	60 700		
68	401066	CONCRETE PAVEMENT (RAMP TERMINI)	M3	420		
69	404092	SEAL PAVEMENT JOINT	M	13 500		
70	019596	FAST-SETTING CEMENT CONCRETE DRIVEWAY	M3	120		
71 (S)	019597	356 MM CAST-IN-DRILLED-HOLE CONCRETE PILING (BARRIER)	M	160		
72 (S)	019598	406 MM CAST-IN-DRILLED-HOLE CONCRETE PILING (BARRIER)	M	2840		
73 (S)	498027	400 MM CAST-IN-DRILLED-HOLE CONCRETE PILING (SOUND WALL)	M	110		
74 (F)	510060	STRUCTURAL CONCRETE, RETAINING WALL	M3	2308		
75	510087	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	M3	252		
76 (F)	510410	CLASS 1 CONCRETE (STRUCTURE)	M3	23		
77 (F)	510413	CLASS 1 CONCRETE (BOX CULVERT)	M3	3830		
78 (F)	510502	MINOR CONCRETE (MINOR STRUCTURE)	M3	600		
79	510520	MINOR CONCRETE (CONCRETE DRAIN)	M3	890		
80	048359	PRECAST CONCRETE PANEL	EA	38		

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
81 (S)	517961	SOUND WALL (BARRIER) (MASONRY BLOCK)	M2	4020		
82 (S-F)	518002	SOUND WALL (MASONRY BLOCK)	M2	8915		
83 (S)	519117	JOINT SEAL (MR 30 MM)	M	52		
84 (F)	520101	BAR REINFORCING STEEL	KG	1212		
85 (F)	520103	BAR REINFORCING STEEL (RETAINING WALL)	KG	210 174		
86 (S-F)	520107	BAR REINFORCING STEEL (BOX CULVERT)	KG	477 515		
87 (F)	560203	FURNISH SIGN STRUCTURE (BRIDGE MOUNTED WITH WALKWAY)	KG	5224		
88 (S-F)	560204	INSTALL SIGN STRUCTURE (BRIDGE MOUNTED WITH WALKWAY)	KG	5224		
89 (F)	560213	FURNISH SIGN STRUCTURE (LIGHTWEIGHT)	KG	5840		
90 (S-F)	560214	INSTALL SIGN STRUCTURE (LIGHTWEIGHT)	KG	5840		
91 (F)	560218	FURNISH SIGN STRUCTURE (TRUSS)	KG	25 200		
92 (S-F)	560219	INSTALL SIGN STRUCTURE (TRUSS)	KG	25 200		
93 (S)	561008	760 MM CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)	M	36		
94 (S)	561009	920 MM CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)	M	15		
95	562002	METAL (BARRIER MOUNTED SIGN)	KG	1630		
96	566011	ROADSIDE SIGN - ONE POST	EA	80		
97	566012	ROADSIDE SIGN - TWO POST	EA	10		
98	568001	INSTALL SIGN (STRAP AND SADDLE BRACKET METHOD)	EA	4		
99	568007	INSTALL SIGN OVERLAY	EA	4		
100	568016	INSTALL SIGN PANEL ON EXISTING FRAME	M2	30		

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
101	620909	450 MM ALTERNATIVE PIPE CULVERT	M	26		
102	620913	600 MM ALTERNATIVE PIPE CULVERT	M	2130		
103	620924	900 MM ALTERNATIVE PIPE CULVERT	M	18		
104	650069	450 MM REINFORCED CONCRETE PIPE	M	38		
105	650075	600 MM REINFORCED CONCRETE PIPE	M	2930		
106	650077	750 MM REINFORCED CONCRETE PIPE	M	1630		
107	650079	900 MM REINFORCED CONCRETE PIPE	M	1420		
108	650081	1050 MM REINFORCED CONCRETE PIPE	M	590		
109	650084	1200 MM REINFORCED CONCRETE PIPE	M	670		
110	650086	1350 MM REINFORCED CONCRETE PIPE	M	200		
111	650089	1500 MM REINFORCED CONCRETE PIPE	M	540		
112	650094	2100 MM REINFORCED CONCRETE PIPE	M	1180		
113	650595	2100 MM REINFORCED CONCRETE PIPE (CLASS V SPECIAL)	M	540		
114	681135	100 MM PLASTIC PIPE (EDGE DRAIN)	M	8580		
115	681141	100 MM PLASTIC PIPE (EDGE DRAIN OUTLET)	M	740		
116	705337	600 MM ALTERNATIVE FLARED END SECTION	EA	1		
117	707244	900 MM PRECAST CONCRETE PIPE MANHOLE	M	18		
118 (S)	019599	200 MM PLASTIC-LINED WELDED STEEL PIPE	M	26		
119 (S)	019600	273 MM PLASTIC-LINED WELDED STEEL PIPE	M	43		
120 (S)	019601	350 MM PLASTIC-LINED WELDED STEEL PIPE	M	130		

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
121 (S)	019602	100 MM VITRIFIED CLAY PIPE (EXTRA STRENGTH)	M	450		
122 (S)	019603	200 MM VITRIFIED CLAY PIPE (EXTRA STRENGTH)	M	1620		
123 (S)	019604	250 MM VITRIFIED CLAY PIPE (EXTRA STRENGTH)	M	480		
124 (S)	019605	300 MM VITRIFIED CLAY PIPE (EXTRA STRENGTH)	M	760		
125 (S)	019607	375 MM VITRIFIED CLAY PIPE (EXTRA STRENGTH)	M	310		
126 (S)	019608	300 MM FIBERGLASS REINFORCED PIPE	M	93		
127 (S)	019609	200 MM EXPANSION JOINT	EA	4		
128 (S)	719110	SEWER TERMINAL CLEANOUT	EA	79		
129 (S)	719210	CONCRETE SEWER MANHOLE	EA	56		
130 (S)	019610	CONCRETE SEWER MANHOLE (TYPE D)	EA	4		
131 (S)	719220	DROP SEWER MANHOLE	EA	3		
132 (S)	019611	355 MM WELDED STEEL PIPE CASING (BRIDGE)	M	42		
133 (S)	019612	457 MM WELDED STEEL PIPE CASING (BRIDGE)	M	8		
134 (S)	719507	CHIMNEY PIPE	EA	1		
135	719569	MINOR CONCRETE (PIPE ENCASEMENT)	M3	43		
136 (F)	721810	SLOPE PAVING (CONCRETE)	M3	737		
137	731502	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	M3	1010		
138 (S-F)	750001	MISCELLANEOUS IRON AND STEEL	KG	75 150		
139 (S)	800391	CHAIN LINK FENCE (TYPE CL-1.8)	M	3670		
140	802585	1.2 M CHAIN LINK GATE (TYPE CL- 1.8)	EA	15		

ENGINEER'S ESTIMATE

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
141	802592	2.4 M CHAIN LINK GATE (TYPE CL-1.8)	EA	2		
142	820107	DELINEATOR (CLASS 1)	EA	120		
143	820130	OBJECT MARKER	EA	22		
144	820180	INSTALL MEDIAN MILEAGE PANEL	EA	24		
145 (S)	832003	METAL BEAM GUARD RAILING (WOOD POST)	M	97		
146 (S)	833020	CHAIN LINK RAILING	M	94		
147 (S)	833159	CONCRETE BARRIER (TYPE 27A MODIFIED)	M	110		
148 (F)	833160	CONCRETE BARRIER (TYPE 27)	M	109		
149	833179	CONCRETE BARRIER (TYPE 27S)	M	110		
150	833183	CONCRETE BARRIER (TYPE 27SV)	M	1100		
151 (S)	839565	TERMINAL SYSTEM (TYPE SRT)	EA	8		
152	839701	CONCRETE BARRIER (TYPE 60)	M	3920		
153	839705	CONCRETE BARRIER (TYPE 60E)	M	390		
154 (S)	840515	THERMOPLASTIC PAVEMENT MARKING	M2	680		
155 (S)	840561	100 MM THERMOPLASTIC TRAFFIC STRIPE	M	82 100		
156 (S)	019613	100MM INVERTED THERMOPLASTIC TRAFFIC STRIPE	M	7120		
157 (S)	840563	200 MM THERMOPLASTIC TRAFFIC STRIPE	M	2300		
158 (S)	840564	200 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 3.66 M - 0.92 M)	M	130		
159 (S)	840567	100 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 1.83 M - 0.30 M)	M	90		
160 (S)	019614	100 MM RAISED THERMOPLASTIC TRAFFIC STRIPE	M	29 000		

ENGINEER'S ESTIMATE**07-172154**

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
161 (S)	840571	100 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 5.18 M - 2.14 M)	M	430		
162 (S)	019615	100 MM INVERTED THERMOPLASTIC TRAFFIC STRIPE (BROKEN 5.18M - 2.14M)	M	1990		
163 (S)	840574	200 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 10.98 M - 3.66 M)	M	2400		
164 (S)	850111	PAVEMENT MARKER (RETRO REFLECTIVE)	EA	9220		
165 (S)	860251	SIGNAL AND LIGHTING (LOCATION 1)	LS	LUMP SUM	LUMP SUM	
166 (S)	860252	SIGNAL AND LIGHTING (LOCATION 2)	LS	LUMP SUM	LUMP SUM	
167 (S)	860253	SIGNAL AND LIGHTING (LOCATION 3)	LS	LUMP SUM	LUMP SUM	
168 (S)	860460	LIGHTING AND SIGN ILLUMINATION	LS	LUMP SUM	LUMP SUM	
169 (S)	860703	INTERCONNECTION CONDUIT AND CABLE	LS	LUMP SUM	LUMP SUM	
170 (S)	019616	SIZE 53 CONDUIT (IN SOIL)	M	130		
171 (S)	019617	SIZE 78 CONDUIT (IN SOIL)	M	40		
172 (S)	019618	SIZE 103 CONDUIT (IN SOIL)	M	20		
173 (S)	019619	SIZE 78 TYPE I CONDUIT (UNDER ROADWAY)	M	160		
174 (S)	019620	SIZE 103 TYPE I CONDUIT (UNDER ROADWAY)	M	80		
175 (S)	019621	TWO SIZE 103 CONDUITS (IN ASPHALT)	M	4500		
176 (S)	019622	TWO SIZE 103, TYPE I CONDUITS (UNDER ROADWAY)	M	90		
177 (S)	019623	SIZE 25 INNERDUCT	M	36 200		
178 (S)	019624	TRAFFIC MONITORING STATION (LOCATION 2714)	LS	LUMP SUM	LUMP SUM	
179 (S)	019625	TRAFFIC MONITORING STATION (LOCATION 271S)	LS	LUMP SUM	LUMP SUM	
180 (S)	019626	CLOSED CIRCUIT TELEVISION SYSTEM (LOCATION FT 028)	LS	LUMP SUM	LUMP SUM	

ENGINEER'S ESTIMATE

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
181 (S)	019627	CLOSED CIRCUIT TELEVISION SYSTEM (LOCATION FT 034)	LS	LUMP SUM	LUMP SUM	
182 (S)	861101	RAMP METERING SYSTEM (LOCATION 1)	LS	LUMP SUM	LUMP SUM	
183 (S)	861102	RAMP METERING SYSTEM (LOCATION 2)	LS	LUMP SUM	LUMP SUM	
184 (S)	861103	RAMP METERING SYSTEM (LOCATION 3)	LS	LUMP SUM	LUMP SUM	
185 (S)	019628	CABLE NODE (LOCATION FT 043)	LS	LUMP SUM	LUMP SUM	
186 (S)	861349	REMOVE EXISTING SIGNAL SYSTEM	LS	LUMP SUM	LUMP SUM	
187 (S)	861501	MODIFY SIGNAL AND LIGHTING	LS	LUMP SUM	LUMP SUM	
188 (S)	867014	12 SINGLEMODE FIBER OPTIC CABLE	M	240		
189 (S)	867015	24 SINGLEMODE FIBER OPTIC CABLE	M	4800		
190 (S)	867017	48 SINGLEMODE FIBER OPTIC CABLE	M	9300		
191 (S)	867130	FIBER OPTIC SPLICE CLOSURE	EA	14		
192 (S)	869039	COMMUNICATION PULL BOX	EA	13		
193 (S)	869047	SPLICE VAULT	EA	7		
194 (S)	869075	SYSTEM TESTING AND DOCUMENTATION	LS	LUMP SUM	LUMP SUM	
195	BLANK					
196	020207	REMOVE THERMOPLASTIC TRAFFIC STRIPE AND PAVEMENT MARKING (YELLOW)	M2	670		
197	150722	REMOVE PAVEMENT MARKER	EA	3500		
198	BLANK					
199	020378	RESET CHAIN LINK FENCE (TYPE CL-2.4)	M	85		
200	157561	BRIDGE REMOVAL (PORTION) LOCATION A	LS	LUMP SUM	LUMP SUM	

ENGINEER'S ESTIMATE

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Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
201	157562	BRIDGE REMOVAL (PORTION) LOCATION B	LS	LUMP SUM	LUMP SUM	
202	157563	BRIDGE REMOVAL (PORTION) LOCATION C	LS	LUMP SUM	LUMP SUM	
203 (F)	020379	STRUCTURAL EXCAVATION (CHANNEL)	M3	17900		
204 (F)	020380	STRUCTURAL BACKFILL (CHANNEL)	M3	17800		
205 (F)	192003	STRUCTURE EXCAVATION (BRIDGE)	M3	215		
206 (F)	193003	STRUCTURE BACKFILL (BRIDGE)	M3	150		
207 (F)	193031	PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	M3	170		
208	490505	FURNISH STEEL PILING (HP 250X62)	EA	2432		
209 (S)	490506	DRIVE STEEL PILE (HP 250X62)	EA	129		
210	490511	FURNISH STEEL PILING (HP 250X85)	EA	6790		
211 (S)	490512	DRIVE STEEL PILE (HP 250X85)	EA	370		
212 (S)	020381	450 MM CAST-IN-DRILLED HOLE CONCRETE PILING (CHAIN LINK FENCE)	M	160		
213 (S)	500001	PRESTRESSING CAST IN PLACE CONCRETE	LS	LUMP SUM	LUMP SUM	
214	020382	STRUCTURAL CONCRETE (CHANNEL WALL)	M3	2820		
215 (F)	510051	STRUCTURAL CONCRETE, BRIDGE FOOTING	M3	60		
216 (F)	510053	STRUCTURAL CONCRETE, BRIDGE	M3	205		
217 (F)	511046	HEAVY BLAST TEXTURE	M2	9		
218 (F)	020383	COBBLESTONE TEXTURE	M2	230		
219	511106	DRILL AND BOND DOWEL	M	18		
220 (S)	519142	JOINT SEAL (MR 40 MM)	M	6		

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ADDED PER ADDENDUM NO. 2 DATED DECEMBER 15, 2000

ENGINEER'S ESTIMATE**07-172154**

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
221 (S-F)	520102	BAR REINFORCING STEEL (BRIDGE)	KG	51900		
222 (S)	020384	559 MM WELDED STEEL PIPE CASING (BRIDGE)	M	186		
223 (S)	020385	350 MM EXPANSION JOINT	EA	2		
224 (S-F)	750501	MISCELLANEOUS METAL (BRIDGE)	KG	550		
225 (S-F)	800301	CHAIN LINK FENCE (MODIFIED)	M	204		
226 (S)	802594	2.7 CHAIN LINK GATE (TYPE CL-1.8)	EA	1		
227 (S-F)	020386	CHAIN LINK RAILING (TYPE 6, VINYL CLAD)	M	180		
228 (S-F)	839521	CABLE RAILING	M	1400		
229 (S)	020387	LIGHTING (CITY) (MODIFIED)	LS	LUMP SUM	LUMP SUM	
230	020388	SOUND WALL (MASONRY BLOCK ON CHANNEL WALL)	M2	6000		
231 (F)	020389	BAR REINFORCING STEEL (CHANNEL WALL)	KG	204900		
232	999990	MOBILIZATION	LS	LUMP SUM	LUMP SUM	

TOTAL BID: _____